U.S. DEPARTMENT OF COMMERCE
National Technical Information Service

PB-273 545

Information Retrieval Services of EPA's Office of Solid Waste Management Programs

Environmental Protection Agency, Washington, D C

1973

PB 273 545

INFORMATION RETRIEVAL SERVICES of EPA's office of solid waste management programs

REPRODUCED BY
NATIONAL TECHNICAL
INFORMATION SERVICE
U. S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA. 22161

INFORMATION RETRIEVAL SERVICES

of EPA's Office of Solid Waste Management Programs

This publication (SW-91.2) was written

by JOHN A. CONNOLLY

U.S. ENVIRONMENTAL PROTECTION AGENCY

1973

An environmental protection publication (SW-91.2)
in the solid waste management series
Second edition, 1973

CONTENTS

SWIRS SECTION, 2

Data Base, 2

User Services, 7

General Inquiries, 8

Literature Searches, 8

Instructions in SWIRS Use, 11

LIBRARY SECTION, 11

FIGURES

1. SWIRS Data-Base Input/Output

2. Sample SWIRS Abstract Sheet

3. SWIRS Search Procedure

TABLE

1. Major SWIRS Subject Categories

INFORMATION RETRIEVAL SERVICES
OF EPA'S OFFICE OF SOLID WASTE MANAGEMENT PROGRAMS

The Information Retrieval Services Branch of EPA's Office of Solid Waste Management Programs performs one of three main functions of OSWMP's Technical Information Staff. These three functions are: public services, development and dissemination of OSWMP information materials, and information retrieval from the worldwide solid waste management field. The primary mission of the Information Retrieval Services Branch is to fulfill the objectives of the Solid Waste Disposal Act of 1965, as amended by the Resource Recovery Act of 1970, as it relates to collecting and disseminating the results of technological developments published in the world's open literature in the field of solid waste management. In accomplishing this mission, the Branch coordinates its activities with other Federal information storage and retrieval systems, State and local systems, and the World Health Organization.

The Branch is composed of two sections: the Solid Waste Information Retrieval System (SWIRS) Section, with data bank holdings of approximately 23,000 items, and the Library Section. The SWIRS Section supports the legislative and EPA objective of making abstracted solid waste management information widely available to the technical community; its holdings are supplemented by those of the Library Section. Because of the small size of the OSWMP staff, certain segments of the services mentioned in this paper

are operated via the contract mechanism, as is the case throughout OSWMP. Such contracted services are fully controlled by the Chief of the Information Retrieval Services Branch.

SWIRS SECTION

SWIRS consists of a comprehensive collection of the world's published literature in many languages relevant to solid waste management. Materials selected for the data bank are retrievable by automated means. Although the collection is primarily scientific and technical, a useful body of nontechnical information is also available. Users of the SWIRS system include Federal, State, and local agencies in the United States and abroad as well as members of the general research and development community, consulting engineers, attorneys, students, and citizen, civic, service, and environmental organizations.

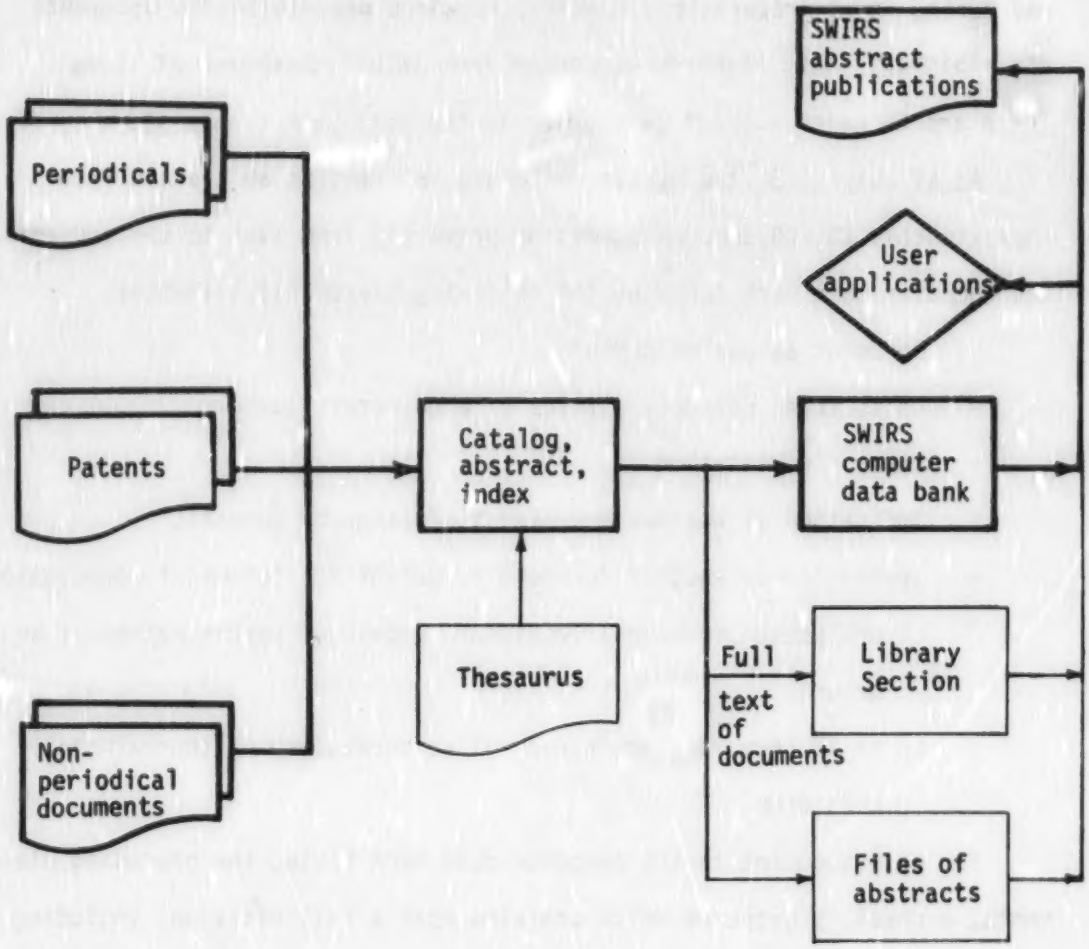
Data Base

Documents to be entered in SWIRS are drawn from a wide variety of published sources (Figure 1). In addition to a core list of approximately 700 titles, primary and secondary periodical literature is obtained from a screening of more than 7,000 titles available to the system's contractor. Other sources for the data bank include patent literature from the United States and eight foreign countries, and such nonperiodical documents as conference papers, books, technical reports, monographs, and laws. Other materials are collected in Japan, Europe, and the United States by regular personal contact with key persons working in the field of solid waste management in government, industry, and universities.

Although this coverage is extensive, we recognize that no amount of effort will identify all pertinent documents. SWIRS therefore welcomes

FIGURE 1

SWIRS Data-Base Input/Output



suggestions from any source for additional documents that should be made available to the system's users.

All aspects of solid waste management reported in the technical literature are considered for inclusion in the data bank. After selection and during input preparation, specific keywords describing the documents are assigned; these keywords are drawn from SWIRS' thesaurus of terms. There are 28 major subject categories in the data bank (Table 1).

As of July 1973, the system contained information abstracted from approximately 23,000 documents, dating primarily from 1964 to the present. The computer data bank contains the following searchable elements:

- Document accession number
- Up to three personal authors or a corporate author
- Year of publication
- Indication of whether document is foreign or domestic
- Indication of whether document is scientific (chemical formulations, analyses); technical (engineering design, specifications); or general
- Up to 15 keywords from a controlled vocabulary of approximately 800 terms

For each document in the computer data bank having the preceding elements, a sheet is prepared which contains both a full citation, including English titles of foreign-language documents, and an informative abstract of up to 300 words (Figure 2). Paper and microfilm files of these sheets are maintained to facilitate retrieval. The same information is contained in the computer. The full texts of all documents accessioned are stored in the Library Section. The lag time from receipt of a document for screening

TABLE 1

Major Subject Categories of SWIRS Documents

Agricultural wastes (includes crop residues and animal manures)
Analysis of solid waste
Automobile (abandoned autos, processing, separating, salvaging, reduction, collection of autos. Recycling of automobile parts will be found under Automobile, not under Recycling)
Bulky wastes (includes building-demolition and highway-construction debris)
Collection (includes transfer stations). *See also* Transport
Compost/Composting (includes equipment, processes, and marketing)
Disposal (multisystems only). *See also* Specific methods
Economics (includes costs, fees, taxes, and financing)
Hazardous wastes (includes pesticides)
Health/Safety
Incineration (includes all burning processes and pyrolysis)
Industrial wastes (excludes sewage sludge and slurry)
Institutional wastes (includes hospitals, schools, universities, research facilities)
Law/Regulations (includes ordinances and bills)
Litter
Management (includes the facility as well as overall concept of the system)
Ocean disposal (includes all waterways)
Packaging wastes (includes plastic, glass, and metals)
Processing/Reduction (excludes composting and incineration)
Recycling (includes reclamation, utilization, salvage, recovery and reuse). *See also* Automobile
Research
Sanitary landfill (includes all land disposal)
Separation
Sludge (includes sewage sludge and slurry)
Storage (includes receptacles, containers, and sacks)
Street cleaning (includes snow removal and sweeping equipment)
Training, Education, and **Public Relations**
Transport (includes pipelines, pneumatic systems, rail, truck or barge haul). *See also* Collection

FIGURE 2

Sample SWIRS Abstract Sheet

C. NUMBER

SOLID WASTE INFORMATION RETRIEVAL SYSTEM

15930
ACCESSION

AUTHOR: Ready, T. J.

TITLE: Detailed plan for total recycling plant

PERIODICAL TITLE: Secondary Raw Materials

VOLUME: 9 **NUMBER:** 2 **PAGES:** 120-122, 124-125,127-128,131-133,135 **DATE:** Feb. 1971

LANGUAGE:

The Aluminum Association has developed a detailed plan for a recycling plant that consists of technically feasible devices and processes which will be evaluated singly and in combination. The plant inputs wastes at one end and outputs saleable material at the other. Special emphasis has been placed on economic factors - capital investments, operating costs, revenues from recycled goods, and potential sale of by-product energy. The design also accounts for odor control, waste water quality, and air emissions. The only limiting factor in the economic success of the plant is the value of the materials in the garbage. The proposed demonstration plant can handle 2,500 tons of municipal refuse per week, or the amount generated by a population of 175,000 to 225,000. It consists of a receiving and shredding area with its own operators' control station, two 200-ton-per-day incinerators which can produce steam, two electromagnetic separators, and a conveyer belt. (D) (T)

KEYWORDS: reclamation; metal; aluminum; pilot plant; economics; shredding; incinerator; separator; conveyor;

DATE 03-24-72

FCA:22,5 (CIN)
(REV. 2-71)

to entry into the SWIRS data bank and Library Section is 3 to 4 weeks.

Processed documents also are used to provide copy for a monthly abstract publication, using computer-driven photocomposition techniques that operate directly on input data recorded on magnetic tapes. Monthly and yearly author and subject indices will facilitate use of the abstract bulletin. The primary use of SWIRS input, however, is the computer data bank, which is used to respond to specific user demands (Figure 1).

Continuing a series of solid waste management bibliographies which began in 1940, selected abstracts and patents are grouped by subject and have been published by OSWMP through 1968; 1969 through 1971 are in press. The coverage for 1972 and future issues will appear in monthly volumes. In addition, selected solid waste management devices and systems patented in the United States and abroad have been summarized in bulletins covering the periods from 1875 to 1966 (equipment and processes used in buildings). The patent literature from 1945 through 1971 covers all aspects of the solid waste management field.

User Services

In addition to the abstract bulletins and bibliographies, SWIRS offers users a variety of services. These include responding to general inquiries, conducting specific literature searches, acting as liaison to the World Health Organization's solid waste management activities, and conducting SWIRS user seminars. No fee is charged at present for any of these services. In addition, the Chief of the Information Retrieval Services Branch provides consultation services in information/library science design and, as a member of the EPA Information Systems Committee, assists in continued development of existing Agency information activities.

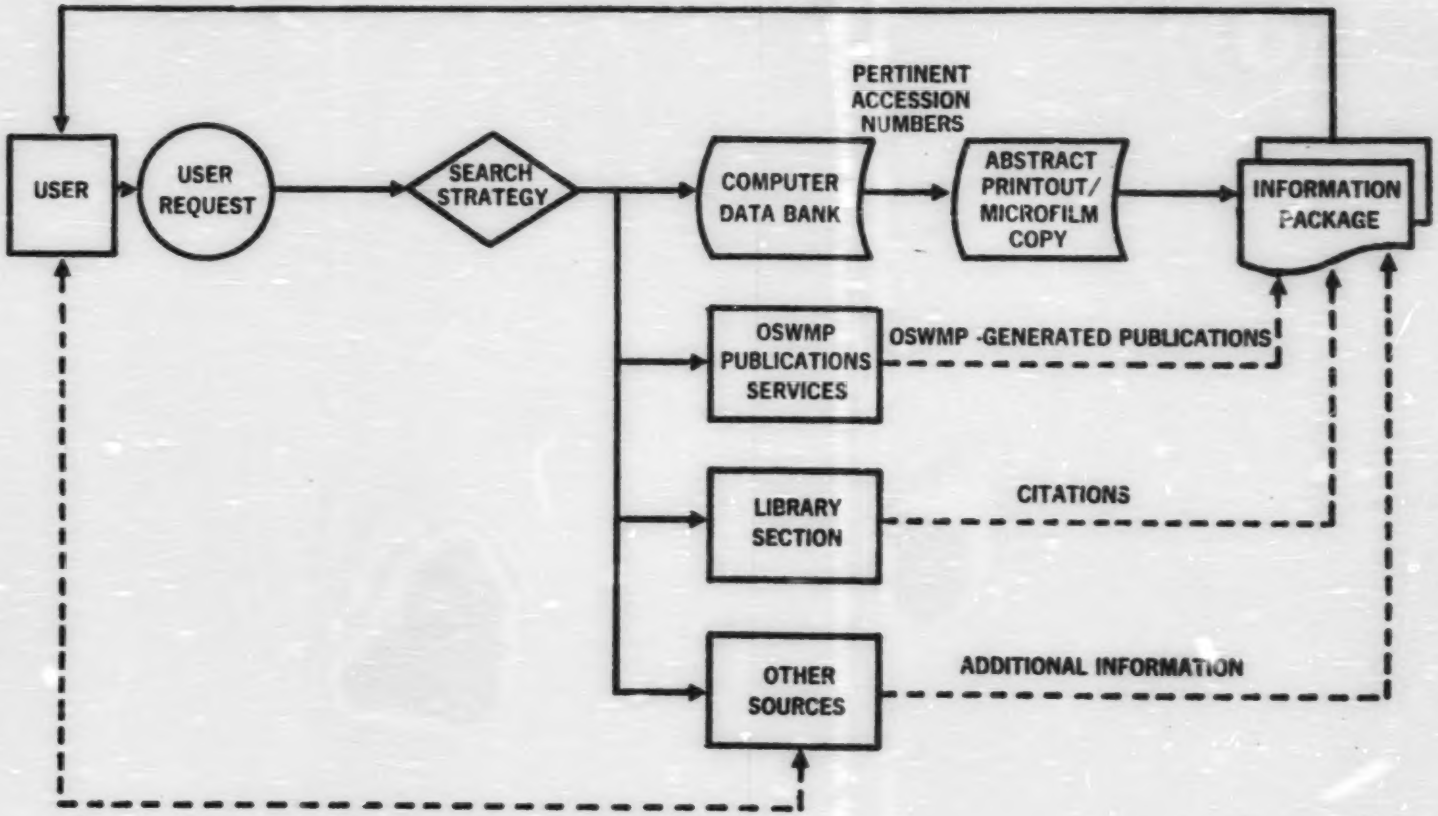
General Inquiries. Written, telephoned, or in-person inquiries are honored for any general information that can be provided without a machine search, such as a request by a student for "publications that give me a general picture of the solid waste problem in the United States." Referral services are also provided to direct an inquirer to persons working in OSWMP, other agencies of the Government, or others who are knowledgeable in the subject of the request. General information may be requested by calling area code 202, 254-7438 or by visiting SWIRS at 1835 K Street, NW, Washington, D.C.

Literature Searches. Comprehensive literature searches may be obtained by written request to Solid Waste Information Retrieval System (SWIRS), Post Office Box 2365, Rockville, Maryland 20852.

Three sources of information within the OSWMP Technical Information Staff, and other government or private sources, are tapped in response to such requests (Figure 3). The primary source is the SWIRS computerized data bank, containing the information abstracted from the scientific and technical documents. Capability exists for selective retrieval by a controlled set of keywords and other data elements, permitting entry of a question such as: "What technology exists in Eastern Europe related to utilization of heat from incinerators since 1969?" Machine searches also may be conducted to provide complete bibliographic citation information to an incomplete reference, or to verify the accuracy of a citation.

FIGURE 3

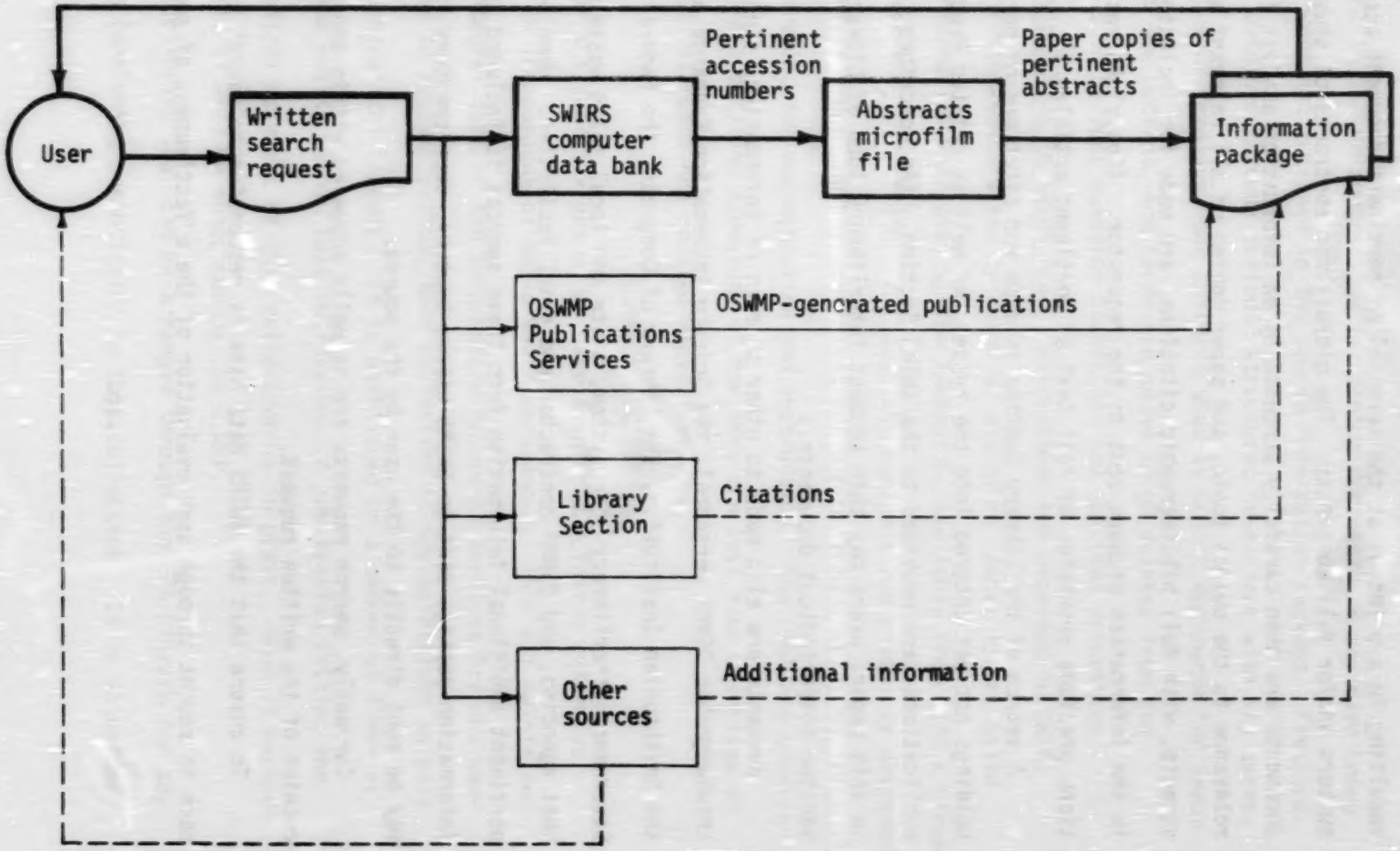
SWIRS SEARCH PROCEDURE



Erratum to replace p.9 in publication SW-91.2

FIGURE 3

SWIRS Search Procedure



Requests are entered and monitored from a communications terminal, resulting in a printout at the terminal of pertinent document accession numbers and/or full abstracts. The microfilmed abstracts of these documents are then carefully screened by an information analyst for relevance to the search topic, and paper copies of all relevant abstracts, with full bibliographic citations, are made for inclusion in the information package sent to the requestor. (Copyright restrictions preclude provision of full text of pertinent articles.)

A search of the Library Section is made and citations of pertinent holdings not yet entered into the system, as well as related Program publications, are provided to the SWIRS Section. (As described later in this paper, users may then request interlibrary loan of Library Section nonperiodical documents.)

Requests are also made to other sources of information, such as knowledgeable OSWMP personnel, the Science Information Exchange of the Smithsonian Institution, the Library of Congress, the Federal Government interlibrary loan system, State and local solid waste management agencies, and OSWMP contractor and grant facilities. When possible, pertinent additional information from these sources is included in the information package sent to SWIRS users; however, supplementary information may be sent directly to the user by the source.

Currently, search requests are normally answered within one week of receipt of the written request.

To ensure that the SWIRS data base is responsive to users' needs, feedback is sought through user evaluation of the effectiveness of searches

received, including suggestions for adding documents he may have known of that were not included in the search information package. Feedback is also obtained through periodic structured interviews with key users. Based on such feedback, the criteria used to select documents for input to SWIRS are updated, and terms are added to or deleted from the thesaurus to reflect changing technology and shifting priorities.

Instructions in SWIRS Use. Instructions are provided to SWIRS users through seminars and by means of the Users' Guide to the Solid Waste Information Retrieval System Thesaurus, available from 1835 K Street, NW, Washington, D.C. 20460. Although the seminars are primarily designed for OSWMP personnel, other government and nongovernment users may request an appointment for demonstration and instruction. The seminars provide users with a detailed knowledge of how they can best take advantage of the SWIRS data bank and related facilities.

LIBRARY SECTION

Over the past six years, we have developed a fairly extensive library on the subject of solid waste management. This was maintained as an integral part of the Information Retrieval Services Branch; however, due to reorganization, this collection is now maintained as part of the central EPA library. It is maintained by a member of OSWMP as a separate entity within that collection. A publication listing the nonperiodical holdings of this collection is in press. When it becomes available, it will be announced by the OSWMP.

Interlibrary loan can be arranged through the EPA Library for any document (excluding periodicals) in this collection. It is suggested

that a requestor do this through an established library rather than on an individual basis. The library does not lend periodicals and provides no photoduplication services.

μσ714b

☆ U.S. GOVERNMENT PRINTING OFFICE 1973— 759-486/1922